



DEFENSE INFORMATION SYSTEMS AGENCY

JOINT INTEROPERABILITY TEST COMMAND
P.O. BOX 12798
FORT HUACHUCA, ARIZONA 85670-2798

IN REPLY
REFER TO:

Battlespace Communications Portfolio (JTE)

14 March 2008

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Special Interoperability Test Certification of the Dialogic Communications Corporation (DCC)-USA Communicator! NXT with Software Release 4.0

References: (a) DoD Directive 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01D, "Interoperability and Supportability of Information Technology and National Security Systems," 8 March 2006

1. References (a) and (b) establish the Defense Information Systems Agency, JITC, as the responsible organization for interoperability test certification. Additional references are provided in enclosure 1.
2. The DCC-USA Communicator! NXT with Software Release 4.0 is hereinafter referred to as the System Under Test (SUT). The SUT meets the interface requirements and all required functional capabilities and is certified for joint use within the Defense Switched Network (DSN). The SUT met the interface and functional requirements for Customer Premise Equipment (CPE) Automated Receiving Devices (ARD) set forth in appendix 7 of reference (c). The SUT analog interface is certified for use with any switching system on the DSN Approved Products List (APL) that offers a certified analog interface. The SUT Digital Transmission Link Level 1 (T1) Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI) and T1 Channel Associated Signaling (CAS) interfaces are also certified specifically with the following switches on the DSN APL: the Alcatel-Lucent Class 5 Electronic Switching System (5ESS), Compact Digital Exchange (CDX), and Very Compact Digital Exchange (VCDX), the Avaya S8700, S8710, and S8720, and the Siemens Elektronisches Wählsystem Digital (EWSD). These are the only switches on the DSN APL that properly handle ROUTINE and above precedence calls over T1 interfaces as set forth in section 3.3 of reference (c). Testing was conducted using test procedures derived from reference (d). No other configurations, features, or functions, except those cited within this report, are certified by the JITC or authorized by the Program Management Office for use within the DSN. This certification expires upon changes that affect interoperability, but no later than three years from the date of this memorandum.
3. This certification is based on interoperability testing and review of the vendor's Letter of Compliance (LoC). Interoperability testing was conducted by JITC at the Global Information Grid Network Test Facility, Fort Huachuca, Arizona, from 17 December through 22 January 2008. Review of the vendor's LoC was completed on 31 December 2007. Enclosure 2 documents the test results and describes the test configuration.

4. The Functional Requirements used to evaluate the interoperability of the SUT and the interoperability status are indicated in table 1. This interoperability test status is based on the SUT's ability to meet:

- a. CPE automated receiving device requirements specified in reference (c) verified through JITC testing and/or vendor submission of LoC.
- b. The overall system interoperability performance derived from test procedures listed in reference (d).
- c. Assured services as defined in reference (e).

Table 1. SUT Functional Requirements and Interoperability Status

| Interface | Critical | Certified | Functional Requirements | Met | GSCR Paragraph |
|--|-----------------|-------------|---|-------------|--------------------|
| T1 ISDN PRI NI-2 (ANSI T1.607) | No ¹ | Yes | PCM-24 (C) | Met | A7.5.5 |
| | | | FCC Part 15/Part 68 (R) | Met | A7.5 |
| | | | DISR compliance as applicable (R) | Met | A7.5 |
| | | | ROUTINE precedence only in accordance with GSCR, Section 3.3 (R) | Met | A7.5 |
| T1 CAS D4/AMI DTMF | No ¹ | Yes | PCM-24 (C) | Met | A7.5.5 |
| | | | DTMF Outpulsing in accordance with GR-506-CORE (C) | Met | A7.5, 5.4.1, 5.4.2 |
| | | | FCC Part 15/Part 68 (R) | Met | A7.5 |
| | | | DISR compliance as applicable (R) | Met | A7.5 |
| | | | ROUTINE precedence only in accordance with GSCR, Section 3.3 (R) | Met | A7.5 |
| 2-Wire Analog (GR-506-CORE) | No ¹ | Yes | MLPP in accordance with GSCR, Section 3 (C) | Met | A7.5 |
| | | | Auto Answer mode Settable to more than the equivalency of 4 ROUTINE rings (C) | Met | A7.5 |
| | | | FCC Part 15/Part 68 (R) | Met | A7.5 |
| | | | DTMF Outpulsing in accordance with GR-506-CORE (C) | Met | A7.5, 5.4.1, 5.4.2 |
| | | | DISR compliance as applicable (R) | Met | A7.5 |
| | | | ROUTINE precedence only in accordance with GSCR, Section 3.3 (R) | Met | A7.5 |
| | | | Conformance to TIA/EIA-470-B (R) | Met | A7.5.1 |
| Security | Yes | See note 2. | Security (R) | See note 2. | A7.6 |
| LEGEND: <div style="display: flex; justify-content: space-between;"> <div> A - Appendix AMI - Alternate Mark Inversion C - Conditional CAS - Channel Associated Signaling D4 - 4th generation channel bank DISA - Defense Information Systems Agency DISR - Department of Defense Information Technology Standards Registry (replacement for the Joint Technical Architecture) DTMF - Dual Tone Multi-Frequency FCC - Federal Communications Commission </div> <div> GR - Generic Requirement GSCR - Generic Switching Center Requirements Mbps - Megabits per second MLPP - Multi-Level Precedence and Preemption PCM-24 - Pulse Code Modulation - 24 Channels PCM-30 - Pulse Code Modulation - 30 Channels R - Required SUT - System Under Test T1 - Digital Transmission Link Level 1 (1.544 Mbps) </div> </div> NOTES: 1 The ARD requirements can be met via one of the following interfaces: 2-Wire Analog, 2-Wire Digital, 4-Wire Digital, PCM-24, or PCM-30. 2 Security is tested by DISA-led Information Assurance test teams and published in a separate report. | | | | | |

5. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD)

JITC Memo, JTE, Special Interoperability Test Certification of the Dialogic Communications Corporation (DCC)-USA Communicator! NXT with Software Release 4.0

system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet), or <http://199.208.204.125> (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at <http://jitc.fhu.disa.mil/tssi>.

6. The JITC point of contact is Michael Napier, DSN 879-6787, commercial (520) 538-6787, FAX DSN 879-4347, or e-mail to michael.napier@disa.mil. The tracking number for the SUT is 0722802.

FOR THE COMMANDER:

2 Enclosures a/s



RICHARD A. MEADOR

Chief

Battlespace Communications Portfolio

JITC Memo, JTE, Special Interoperability Test Certification of the Dialogic Communications Corporation (DCC)-USA Communicator! NXT with Software Release 4.0

Distribution:

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Joint Interoperability Test Command, Liaison, ATTN: TED/JT1, 2W24-8C, P.O. Box 4502, Falls Church, VA 22204-4502

Defense Information Systems Agency, Net-Centricity Requirements and Assessment Branch, ATTN: GE333, Room 244, P.O. Box 4502, Falls Church, VA 22204-4502

Office of Chief of Naval Operations (N71CC2), CNO N6/N7, 2000 Navy Pentagon, Washington, DC 20350

Headquarters U.S. Air Force, AF/XICF, 1800 Pentagon, Washington, DC 20330-1800

Department of the Army, Office of the Secretary of the Army, CIO/G6, ATTN: SAIS-IOQ, 107 Army Pentagon, Washington, DC 20310-0107

U.S. Marine Corps (C4ISR), MARCORSYSCOM, 2200 Lester St., Quantico, VA 22134-5010

DOT&E, Net-Centric Systems and Naval Warfare, 1700 Defense Pentagon, Washington, DC 20301-1700

U.S. Coast Guard, CG-64, 2100 2nd St. SW, Washington, DC 20593

Defense Intelligence Agency, 2000 MacDill Blvd., Bldg 6000, Bolling AFB, Washington, DC 20340-3342

National Security Agency, ATTN: DT, Suite 6496, 9800 Savage Road, Fort Meade, MD 20755-6496

Director, Defense Information Systems Agency, ATTN: GS235, Room 5W24-8A, P.O. Box 4502, Falls Church, VA 22204-4502

Office of Assistant Secretary of Defense (NII)/DoD CIO, Crystal Mall 3, 7th Floor, Suite 7000, 1851 S. Bell St., Arlington, VA 22202

Office of Under Secretary of Defense, AT&L, Room 3E144, 3070 Defense Pentagon, Washington, DC 20301

U.S. Joint Forces Command, J68, Net-Centric Integration, Communications, and Capabilities Division, 1562 Mitscher Ave., Norfolk, VA 23551-2488

Defense Information Systems Agency (DISA), ATTN: GS23 (Mr. McLaughlin), Room 5W23, 5275 Leesburg Pike (RTE 7), Falls Church, VA 22041

ADDITIONAL REFERENCES

- (c) Defense Information Systems Agency (DISA), "Defense Information Systems Agency, "Department of Defense Voice Networks Generic Switching Center Requirements (GSCR), Errata Change 2," 14 December 2006, Revised 27 March 2007
- (d) Joint Interoperability Test Command, "Generic Switch Test Plan (GST), Change 2," 2 October 2006
- (e) Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6215.01C, "Policy for Department of Defense Voice Services," 9 November 2007

CERTIFICATION TESTING SUMMARY

1. SYSTEM TITLE. Dialogic Communications Corporation (DCC)-USA Communicator! NXT with Software Release 4.0, hereinafter referred to as the System Under Test (SUT).

2. PROPONENT. U.S. Army, Army Material Command (AMC).

3. PROGRAM MANAGER. Mr. Ira Wheeler, 9301 Chapek Road, Ft. Belvoir, Virginia, 22060, e-mail: ira.wheeler@hqamc.army.mil.

4. TESTER. Joint Interoperability Test Command (JITC), Fort Huachuca, Arizona.

5. SYSTEM UNDER TEST DESCRIPTION. The SUT is an emergency notification system that provides rapid communications in times of crisis. The SUT automates manual notification procedures. Call-outs are activated remotely by phone or directly from the desktop. The SUT is configured with three cards: 4- and 12-port analog, and a 24-channel Digital Transmission Link Level 1 (T1). The SUT features include:

- Information delivery through various communications media
- Incoming/outgoing calls in tandem
- Message recording or selection of pre-recorded speech
- Ability to ask qualifying questions such as estimated time of arrival, fit-for-duty status, etc.
- Built-in bulletin board feature for inbound status updates
- Geographic information systems integration for map-driven notification of specific geographic areas
- Message receipt confirmation
- A variety of comprehensive reports detailing the results of the notification effort
- Optional conference bridging capabilities. This feature was not tested by JITC and is not authorized for use within the DSN by the Program Management Office.
- Delivery of information to the hearing impaired via a Telecommunications Device for the Deaf
- Remote call-out activation/termination and simultaneous running of multiple call-out scenarios
- Automatic phone number update feature for maintenance of roster/contact data

6. OPERATIONAL ARCHITECTURE. The Generic Switching Center Requirements (GSCR) DSN architecture in figure 2-1 depicts the relationship of the SUT to the DSN switches.

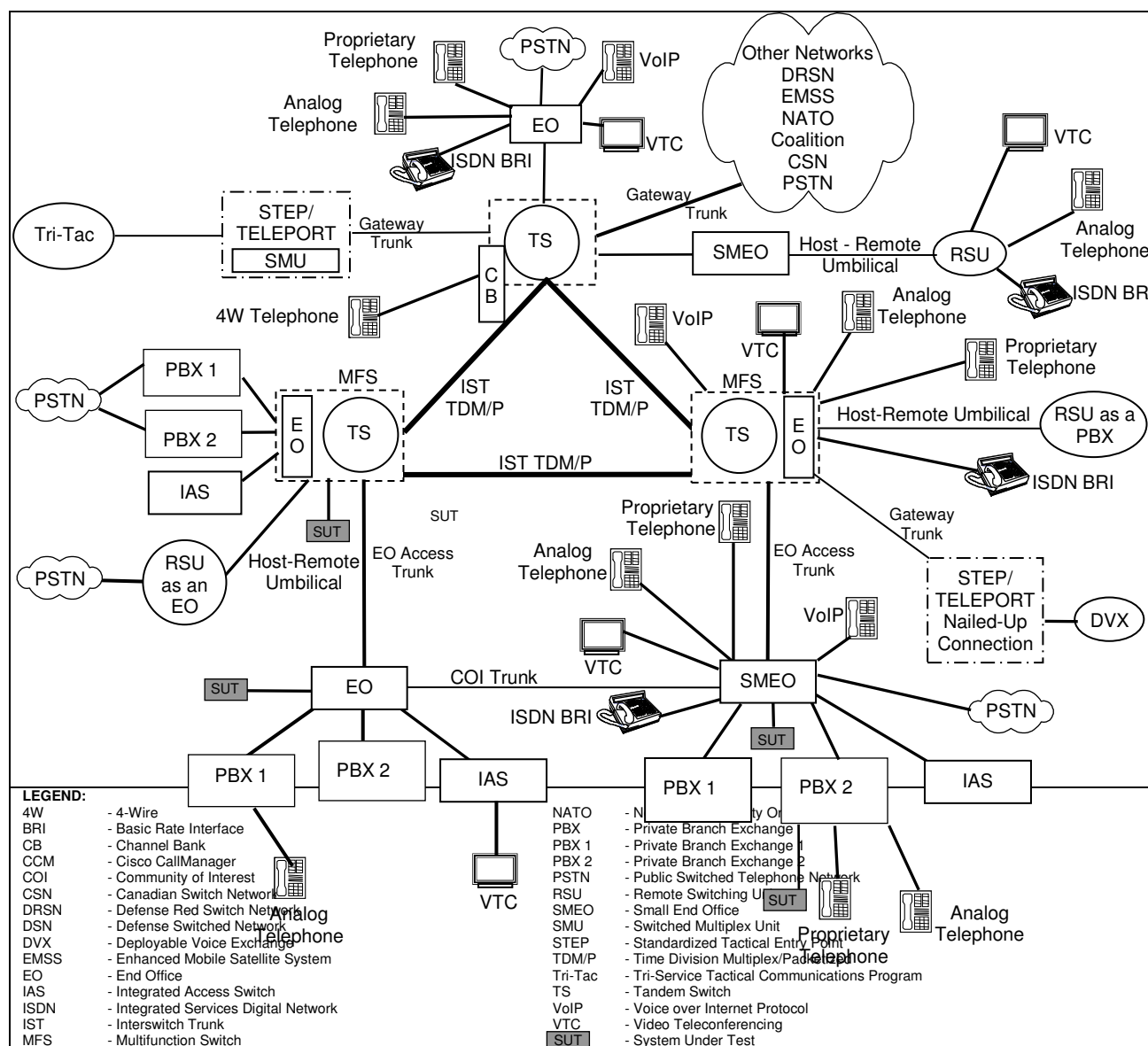


Figure 2-1. DSN Architecture

7. REQUIRED SYSTEM INTERFACES. Requirements specific to the SUT and interoperability results are listed in table 2-1. These requirements are derived from the GSCR Interface and Functional Requirements and were verified through JITC testing. The specific SUT applications certified on each interface are depicted in table 2-1.

Table 2-1. SUT Functional Requirements and Interoperability Status

| Interface | Critical | Certified | Functional Requirements | Met | GSCR Paragraph |
|--|-----------------|-------------|---|-------------|--------------------|
| T1 ISDN PRI NI-2 (ANSI T1.607) | No ¹ | Yes | PCM-24 (C) | Met | A7.5.5 |
| | | | FCC Part 15/Part 68 (R) | Met | A7.5 |
| | | | DISR compliance as applicable (R) | Met | A7.5 |
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| | | | Auto Answer mode Settable to more than the equivalency of 4 ROUTINE rings (C) | Met | A7.5 |
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| | | | DTMF Outpulsing in accordance with GR-506-CORE (C) | Met | A7.5, 5.4.1, 5.4.2 |
| | | | DISR compliance as applicable (R) | Met | A7.5 |
| | | | ROUTINE precedence only in accordance with GSCR, Section 3.3 (R) | Met | A7.5 |
| | | | Conformance to TIA/EIA-470-B (R) | Met | A7.5.1 |
| Security | Yes | See note 2. | Security (R) | See note 2. | A7.6 |
| LEGEND: A - Appendix AMI - Alternate Mark Inversion C - Conditional CAS - Channel Associated Signaling D4 - 4 th generation channel bank DISA - Defense Information Systems Agency DISR - Department of Defense Information Technology Standards Registry (replacement for the Joint Technical Architecture) DTMF - Dual Tone Multi-Frequency FCC - Federal Communications Commission GR - Generic Requirement GSCR - Generic Switching Center Requirements Mbps - Megabits per second MLPP - Multi-Level Precedence and Preemption PCM-24 - Pulse Code Modulation - 24 Channels PCM-30 - Pulse Code Modulation - 30 Channels R - Required SUT - System Under Test T1 - Digital Transmission Link Level 1 (1.544 Mbps) | | | | | |
| NOTES: 1 The ARD requirements can be met via one of the following interfaces: 2-Wire Analog, 2-Wire Digital, 4-Wire Digital, PCM-24, or PCM-30. 2 Security is tested by DISA-led Information Assurance test teams and published in a separate report. | | | | | |

8. TEST NETWORK DESCRIPTION. The SUT was tested at JITC's Global Information Grid Network Test Facility in a manner and configuration similar to that of the DSN operational environment. Testing the system's required functions and features was conducted using the test configurations depicted in figures 2-2 and 2-3. Figure 2-2 depicts the analog test configuration. Figure 2-3 depicts the T1 Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI) and T1 Channel Associated Signaling (CAS) interface test configuration.

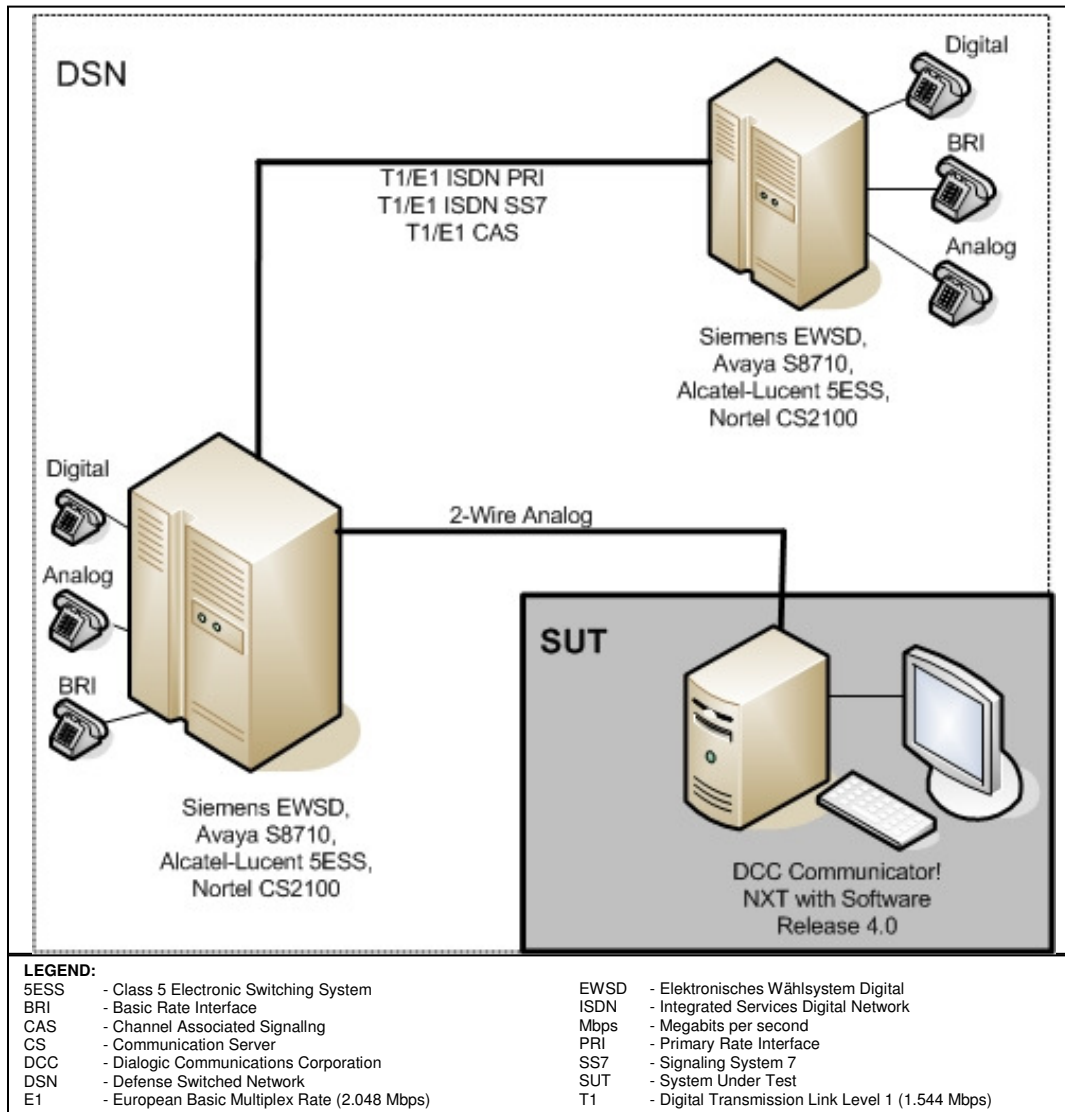


Figure 2-2. SUT Test Configuration (2-Wire Analog)

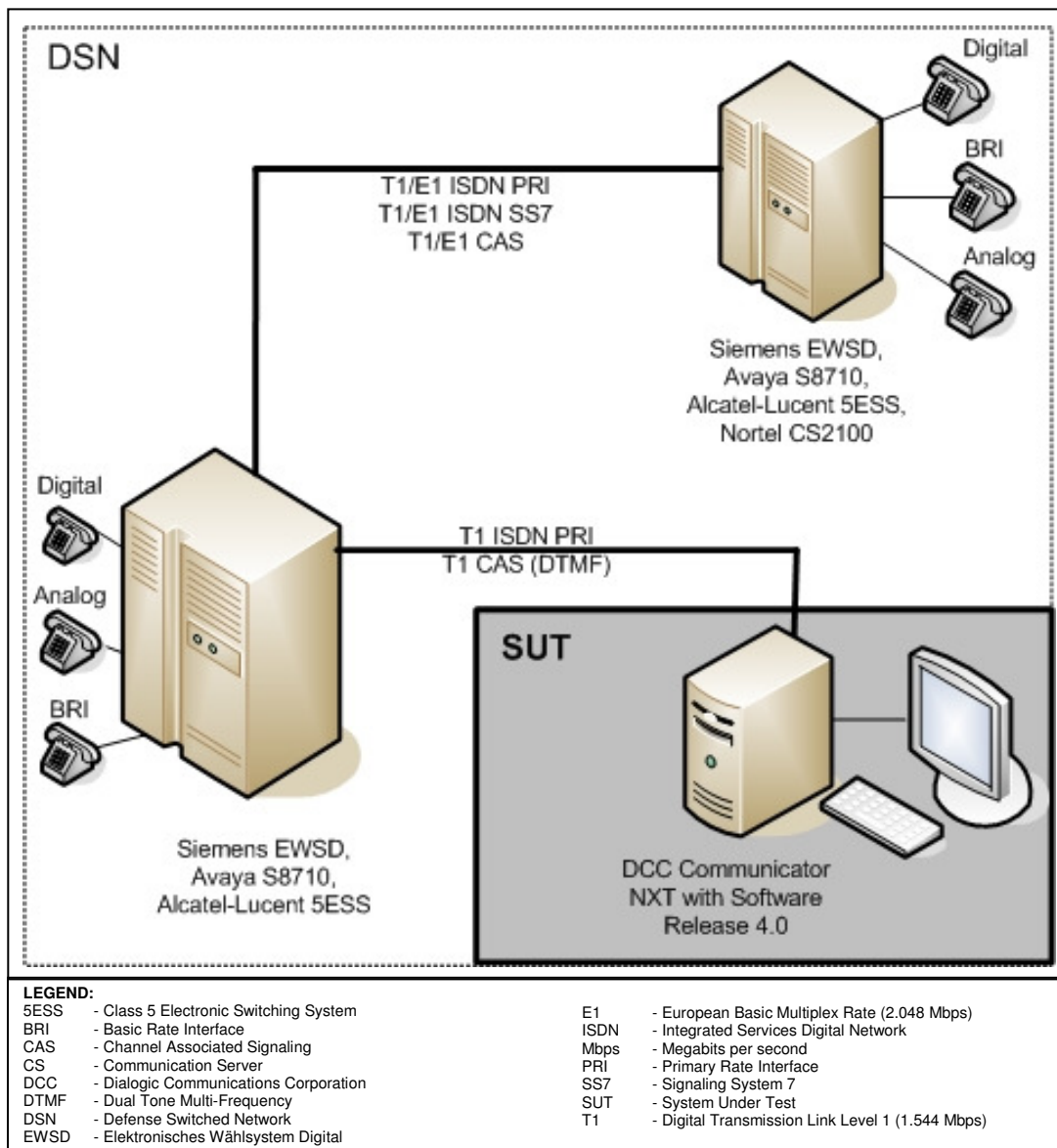


Figure 2-3. SUT Test Configuration (T1 ISDN PRI and T1 CAS)

9. SYSTEM CONFIGURATIONS. Table 2-2 provides the system configurations, hardware and software components tested with the SUT. The SUT was tested in an operationally realistic environment to determine interoperability with a complement of DSN switches noted in table 2-2. The DSN switches listed in table 2-2 only depict the tested configuration. Table 2-2 is not intended to identify the only switch software releases that are certified with the SUT. The SUT is certified with switching systems listed on the DSN Approved Products List (APL) that offer certified analog interfaces. The SUT is also certified with the following switches on the DSN APL that offer T1 Intergrated Services Digital Network (ISDN) Primary Rate Interface (PRI) and T1 Channel Associated Signaling (CAS) interfaces: Alcatel-Lucent Class 5 Electronic Switching System (5ESS), Compact Digital Exchange (CDX), and Very Compact Digital Exchange (VCDX), the Avaya S8700, S8710, and S8720, and the Siemens Elektronisches Wählsystem Digital (EWSD). These are the only switches on the DSN APL that properly handle ROUTINE and above precedence calls over T1 interfaces as required by the GSCR, paragraph 3.3.

Table 2-2. Tested System Configurations

| System Name | Software Release | | |
|--|---|---|--|
| Avaya S8710 | Communication Manager (CM) 4.0 (R014x.00.2.731.7) | | |
| Siemens EWSD | 19d with Patch Set 46 | | |
| Nortel CS2100 | Succession Enterprise (SE) 09.1 | | |
| Alcatel-Lucent 5ESS | 5E16.2 Broadcast Warning Message (BWM) 07-0003 | | |
| SUT | | | |
| DCC Communicator! NXT with Software Release 4.0 | Hardware | Software | |
| | 2 Intel Xeon 3.0 GHz PC with 4 gigabytes RAM | Windows 2003 SP2, SQL 2005 SP2, Symantec AV 10.1.7.7000, IIS 6.0, MS Word 2003, MS Excel 2003, Adobe Reader 8.1.1, Norton Ghost 2003, RXT 4.0 hot-fix 3, NXT 4.0 (JITC Build) | |
| | 2-W Analog Loop Start: Intel-Dialogic 12-Port Card (D/120JCT-LS) | 6.70 | |
| | 2-W Analog Loop Start: Intel-Dialogic 4-Port Card (D/41JCT-LS) | 6.70 | |
| | Intel-Dialogic 24-channel T1 Card (D/240JCT-T1) | 6.70 | |
| LEGEND: | | | |
| 2-W | - 2-Wire | Mbps | - Megabits per second |
| AV | - Anti-virus | MS | - Microsoft |
| 5ESS | - Class 5 Electronic Switching System | PC | - Personal Computer |
| CS | - Communication Server | RAM | - Random Access Memory |
| DCC | - Dialogic Communications Corporation | SP | - Service Pack |
| EWSD | - Elektronisches Wählsystem Digital | SUT | - System Under Test |
| GHz | - Gigahertz | T1 | - Digital Transmission Link Level 1 (1.544 Mbps) |

10. TEST LIMITATIONS. None.

11. TEST RESULTS

a. Discussion. The SUT functional requirements were tested using the test configurations shown in figures 2-2 and 2-3. As required by the GSCR, switching systems are required to route only ROUTINE calls to automated receiving devices such

as the SUT. This is required to insure that precedence calls above ROUTINE placed to the SUT are properly handled via diversion to an attendant console, alternate directory number, or night service. All switches on the DSN APL certified with a 2-wire analog interface meet this requirement with the SUT. Additionally, only the Alcatel-Lucent 5ESS, CDX, and VCDX, the Avaya S8700, S8710, and S8720, and the Siemens EWSD switching systems meet the requirement to route only ROUTINE calls to the SUT when connected via a T1 ISDN PRI or T1 CAS interface.

b. Test Conduct. Simulated event notification intra-switch and inter-switch calls were placed over analog, T1 ISDN PRI, and T1 CAS circuits from the DSN to the SUT using the test configurations shown in figures 2-2 and 2-3. The calls were successful and, when completed, properly disconnected. In addition, event notification calls were initiated from the SUT simulating an event notification initiated from a desktop personal computer on a local area network. These calls were also successful and, when completed, properly disconnected. Furthermore, completed calls placed from or to the SUT were preempted within the simulated DSN to ensure that the proper preemption action occurred as required by the GSCR, section 3. All preempted calls received the proper preemption notification tone, were released, and returned to an idle state ready for the subsequent caller.

c. Test Summary. The SUT met the critical interoperability requirements for a CPE automatic receiving device with the interfaces shown in table 2-2, as set forth in reference (c), and is certified for joint use within the DSN. The SUT analog interface is certified for use with any switching system on the DSN APL that offers a certified analog interface. The SUT T1 ISDN PRI and T1 CAS interfaces are certified with the following switches on the DSN APL: the Alcatel-Lucent 5ESS, CDX, and VCDX, the Avaya S8700, S8710, and S8720, and the Siemens EWSD.

12. TEST AND ANALYSIS REPORT. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet), or <http://199.208.204.125> (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at <http://jitc.fhu.disa.mil/tssi>.